

PRIMARY UTILIZATION OF BIRCH

by HENRY W. SAUNDERS, *Executive Vice President, Saunders Brothers, Westbrook, Maine.*

FROM AN INDUSTRY point-of-view, procurement of raw material and primary manufacture present problems today and challenges for tomorrow.

So that you may become more familiar with the white birch industry and more specifically with Saunders Brothers, I will briefly explain some of the products we manufacture and some of the methods we use to make them. In some ways, we do things quite differently from the long-log users in the industry.

Some of the veneer firms in the birch industry make such items as toothpicks, ice cream spoons, and tongue depressors. Other firms in the industry make thread spools and furniture turnings.

Our company makes dowels for the hardware trade, toy and furniture items, novelty turnings, and pool cues. We are equipped to do almost anything that can be done to a round dowel, including pointing and rounding the ends, drilling, sanding, and painting (fig. 1). For example, one of our customers makes Tinker Toy sets. White birch, because of its light color, moderate strength, and easy workability, is an ideal species for most of our products.

Most of the finished products we sell are less than 12 inches long, and some items such as Beano discs are only 3/16 inch long.

Small Items, Short Bolts

Because our final products are relatively small items, and because hardwoods—particularly white birch—usually grow as crooked trees, the bolter or short-log saw has become the basic head rig in the industry. Four-foot bolts are the most common length that we saw. Various Forest Service studies have indicated a 25 percent greater lumber recovery from a bolter than from a long-log headrig. However, this is not without a sacrifice in production per man. The bolter in many ways is a very old-fashioned tool.

We carefully grade our boltwood according to quality, and sort out the rough knotty sticks to sell as pulpwood. The quality of the timber we use is one of the most important decisions we make because the products we manufacture must be 100 percent clear of defects.

Our company has 350 employees, and nearly 70 of them are involved in sorting and cutting out knots and defects. If we used a slightly poorer quality of birch, our labor costs could easily increase by \$150,000 a year. This does not include anything for the many wasteful steps involved in machining wood that should have gone to a chipper in the first place.

Timber quality is therefore vital to our survival and to operating our mills profitably. And after all, the real reason for being in business is to enjoy profits.

Purchasing Practices

Our philosophy of wood procurement is to buy white and yellow birch from our suppliers in any form. We buy stumpage, bolts, logs, and tree lengths. We accept wood at roadside, loaded on trailers, loaded on the railroad, or delivered to our mills.

Our preference is for 39- and 51-inch bolt lengths, but we also buy 48-inch lengths so that a pulp producer need only sort out his better quality birch bolts. During the summer, we spray bolts and logs with water to prevent spoilage.

We strive to purchase all the boltwood and logs that are offered to us, and then we supplement this open-market wood by logging white birch, yellow birch, rock maple, and beech from our own timberlands.

We do not attempt to log large quantities of species that we do not use ourselves. As an example, it is just not feasible to operate 1,000 cords of pulpwood to produce only 100 cords of birch that we need for our own mills.

I know of no other industry that has more problems and worries with raw material procurement than does ours. In recent years, sales in our industry have definitely been limited by our inability to find a timber supply promptly when the market wanted our products. Some sales have been lost forever to aggressive competitors who sell such products as plastic mouldings and aluminium or steel tubing.

The Problem: Find It

In spite of talk to the contrary, I believe that we have enough white and yellow birch growing to satisfy our present requirements, and that in the not too distant future this resource will be more abundant. These thoughts are based on studies of the forest surveys of Maine and New Hampshire, on many hours hiking in the woods and flying over them, and on discussions with landowners who believe they are not cutting their current growth of birch. In Maine, we are just about cutting our growth of white birch in bolt-wood and sawlog sizes.

I have long believed that we should be prepared for a day when the forest resources are

not as plentiful; and that research in silviculture, tree planting, and genetics should continue. We should strive to produce better quality and faster growing hybrids of birch. I am often reminded of a lot we operated on the National Forest at Twin Mountain, New Hampshire, where many white birch trees grew to be 18 inches in diameter in only 36 years. Reproducing fast-growing trees such as these should certainly be an important challenge to our forest scientists.

The problem of supplying the birch-using industry with raw material is not a lack of adequate timber growth, but a problem of finding and purchasing stumpage, and delivering to the sawmill. Our wood supply must be put on a steady dependable year-round basis and not on the crisis-to-crisis basis that has existed in recent years.

Manpower

This problem is complicated by changing times and a more affluent society. In good times, people tend to gravitate away from woods work: in harder times many will move back into the woods. There is a problem of not having enough people working in the

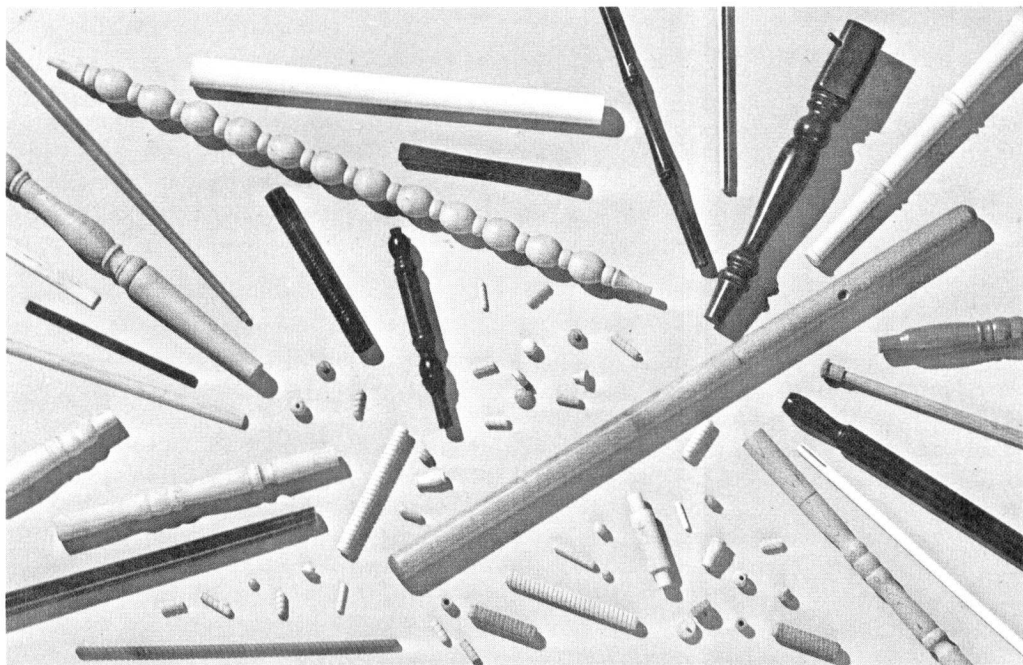


Figure 1.—Some of the dowel products and custom turnings made of birch by Saunders Brothers.

woods to supply the wood requirements in times of prosperity.

In addition, many woods workers are treated as second-class citizens. They frequently do not have steady year-round employment with the same benefits that factory workers enjoy. How many woods workers have group insurance, holiday pay, or vacation pay?

To help solve the manpower problem, I think we will continue to see more company-operated woods crews. These crews will be well-equipped with efficient mechanical equipment and will operate year round. Company crews play an important part in the total supply picture by delivering a steady increment of wood during difficult times such as the heavy snow period of this last winter.

Mechanization

In the past 6 years, mechanization in the woods has been very impressive, but even now we do not have all the equipment we need.

When I was 16 years old, I spent one summer vacation working in the woods as a chopper. My earnings at \$7 per cord were nothing to brag about. The pay for chopping is about the same today because the chain saw is so much faster, but the hard physical work still exists.

Many men can readily learn to operate bulldozers, skidders, loaders, and trucks; but most men never learn to be very productive cutting trees. We desperately need a machine that will cut down a tree, remove the top, and place the remaining stem for easy pickup by a skidder. I have in mind a shear attached to a Prentice-type hydraulic loader to handle trees up to a 20-inch stump diameter. The Beloit people have recently started to make such a unit to handle trees up to 14 inches in diameter.

Another unit of mechanical equipment that we need is an efficient cutup saw to help separate the various grades in each tree and then pile them for trucking. It will become increasingly important for suppliers to separate the various grades in each stem. These saws will become especially important if chip harvesters become more commonplace.

We must strive in the near future to help those who work in the woods become more highly productive. As this trend develops, our sawmills and pulpmills should expect to handle long logs and tree lengths and to separate some of the various grades for other

uses and resale. Long lengths can be cut up easier and faster in the mill yard, and there the grades can be more accurately determined.

Ownership

The next problem that we must solve relates to our changing land ownership. Much of the ownership in the Northeast is in small parcels of approximately 100 acres, and many owners are more interested in recreational use of their land than they are in timber production. The time involved in buying stumpage from such owners is usually considerable because they lack knowledge about timberland. We should encourage our small landowners to join together into efficient long-term management arrangements. They could receive more use of their land for recreation as well as greater earnings from good forest management.

At the same time, they could provide raw materials that would contribute to the general wealth of our area.

The biggest landowner in our region is the U.S. Forest Service. Their present efforts seem to be devoted more to recreation than to helping supply their abundant hardwoods to industry in the Northeast. The economy of the three northern New England States suffers as a result. The largest cut on the White Mountain National Forest was last year when they sold only the equivalent of 1/10th cord per acre from their timber-producing lands. A cut of two or three times this amount would help prevent the panic buying that has existed in the last few years.

We would urge them to consider longer range cutting agreements, easier and quicker methods of selling timber, more efficient methods of scaling, and some way of establishing credit with reliable operators.

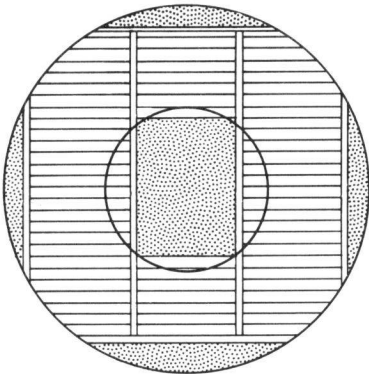
It certainly must be important to our Federal Government to encourage and to help the forest industry that is located in the Northeast and thereby secure the employment they provide. A joint committee of the Forest Service and industry should study these problems.

Our New Sawmill

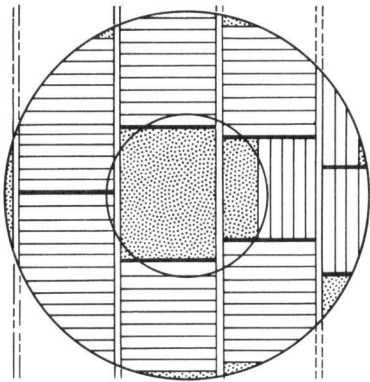
Now I would like to tell you briefly about the new sawmill that Saunders Brothers are building. We are very enthusiastic about this new mill, which is designed to be far more productive with less manpower than our present mill. We intend to eliminate practically all hard physical work, and we somewhat

Figure 2.—Sawing patterns for the old-fashioned bolter saw (left) and the new four-saw headrig (right). The new saw rig is expected to increase yield of dowel slats substantially.

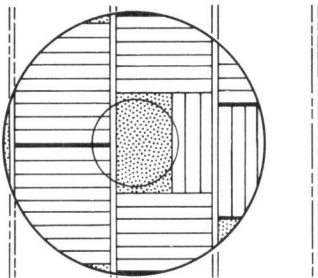
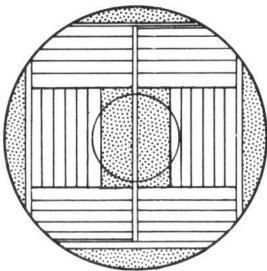
BOLTER



FOUR-SAW HEADRIG



14-INCH BOLT
SAWED INTO 1/2 X 4 BOARDS



10-INCH BOLT
SAWED INTO 1/2 X 4 BOARDS

KEY

TWIN BAND CUTS	——	WASTE	
EDGER CUTS	——	HEARTWOOD	
HEADRIG CUTS	==	PERFECT BOARD	

facetiously say that the mill is designed so women will be able to operate it. I like to joke about hiring a beautiful blonde as a sawyer.

Under our present operation, the bolter removes two or three slabs and then saws the sapwood into 4-inch cants. The redheart is often unsound and is conveyed to the chipper. The cants are then resawed into thin boards on a twin band resaw. This method tends to waste sapwood, which is normally the best part of the bolt (fig. 2).

In addition, the bolter is slow. It requires a strong person as a sawyer, and sometimes a helper to handle the large 4-foot bolts.

Our new method, which is the result of considerable planning, will use a 250-horsepower four-saw headrig with an overhead carriage, to split the bolt into cants. The bolts can be easily rotated to their best sawing

position. The 4-inch cants will be conveyed to an edger, which will remove any edgings and heartwood and saw straight lines for the twin band resaw.

We hope to achieve a substantial increase in production and yield by sawing the bolt in reverse of conventional methods. We should recover nearly 100 percent of a perfect bolt into dowel slats. We can select all the best portion of a lower quality bolt and send all the low-grade wood to the chippers. By this process, we will be able to saw a slightly poorer quality stick and actually end up sending better quality to our dowel mill.

In summary, these are the more serious problems confronting the birch industry, and especially those relating to raw-material supply. I hope that, with the continuing support of groups such as this, we can look forward to successfully meeting the great challenge of the future.

